

THE
AMERICAN JOURNAL
OF
PHYSIOLOGY

VOLUME 142

BALTIMORE, MD.
1944

Medical Lib
Tables

CONTENTS

No. 1. AUGUST, 1944

The Design of the Ballistocardiograph. <i>John L. Nickerson and Howard J. Curtis</i>	1
A Study of the Substances in Blood Serum and Platelets which Stimulate Smooth Muscle. <i>Marjorie Bass Zucker</i>	12
The Rate of Entrance of Radio Sodium into the Aqueous Humor and Cerebrospinal Fluid. <i>Maurice B. Visscher and Charles Carr</i>	27
The Influence of Temperature on Spinal Cord Damage Caused by Asphyxiation. <i>A. van Harreveld and D. B. Tyler</i>	32
The Hemoglobin Concentration of the Blood of Intact and Splenectomized Dogs under Pentobarbital Sodium Anesthesia with Particular Reference to the Effect of Hemorrhage. <i>David T. Carr and Hiram E. Essez</i>	40
Augmentation of Left Coronary Inflow with Elevation of Left Ventricular Pressure and Observations on the Mechanism for Increased Coronary Inflow with Increased Cardiac Load. <i>Donald E. Gregg and Robert E. Shipley</i>	44
Respiratory Effects on the Filling of the Ventrices during a Prolonged Diastole. <i>Mary C. Patras, John M. Brookhart and T. E. Boyd</i>	52
Tissue Electrolyte at Low Atmospheric Pressures. <i>Daniel C. Darrow</i>	61
Depression of the Normal Erythrocyte Number by Soybean Lecithin or Choline. <i>John Emerson Davis</i>	65
Palmar Skin Resistance (P.S.R.) During a Standard Period of Controlled Muscular Activity as a Measure of Physical Fitness and Fatigue. <i>A. H. Ryan and E. L. Ransdell</i>	68
Responses of Blood Capillaries to Acute Hemorrhage in the Rat. <i>B. W. Zweifach, B. E. Lowenstein and Robert Chambers</i>	80
Total Circulating Protein and Hemoglobin in the Growing Rat. <i>Jack Metcalf and Cutting B. Favour</i>	94
The Maintenance of a Normal Serum Calcium by the Parathyroid Gland in Nephrectomized Dogs. <i>E. P. Monaham and Smith Freeman</i>	104
The Synergistic Effect of Caffeine upon Histamine in Relation to Gastric Secretion. <i>J. A. Roth and A. C. Ivy</i>	107
Influence of Oxytocin (Pitocin) upon the Heart and Blood Pressure of the Chicken, Rabbit, Cat, Dog and Turtle. <i>Robert A. Woodbury and Benedict E. Abreu</i>	114
The Sensitivity of the Respiratory Center to Hydrogen Ion Concentration. <i>M. Garcia Banus, Harvey H. Corman, Vincent P. Perlo and George L. Popkin</i>	121
Acid-Humoral Intermediation in the Rectus Abdominis of the Frog. <i>Robert Gesell, Arnold Mason and Charles Brassfield</i>	131
Energy Expenditure in Swimming. <i>Peter V. Karpovich and Nathan Millman</i>	140
Radioactive Phosphorus Studies on Hexosemonophosphate Metabolism in Resting Muscle. <i>Jacob Sacks</i>	145

No. 2. SEPTEMBER, 1944

The Influence of Glycotropic Substances on Survival of the Primitive Respiratory Center in the Ischemic Rat Head. <i>Wm. A. Hiestand, Robert D. Tschirgi and Helen Rogers Miller</i>	153
Circulatory Changes following the Subcutaneous Injection of Histamine in Dogs. <i>Ingri Johnson Deyrup</i>	158
Studies on the Mechanism of Cobalt Polycythemia. <i>Charles O. Warren, Quinton D. Schubmehl and L. Robert Wood</i>	173
The Blood Picture of Iron and Copper Deficiency Anemias in the Rabbit. <i>Sedgwick E. Smith, Mary Medlicott and G. H. Ellis</i>	179

The Influence of Glucose Renal Tubular Reabsorption and P-Aminohippuric Acid Tubular Excretion on the Simultaneous Clearance of Ascorbic Acid. <i>Ewald E. Selkurt</i>	182
The Effect of Adrenal Cortical Extract on the Resistance of Non-Adrenalectomized Rats to Peptone Shock. <i>Dwight J. Ingle</i>	191
The Effect of Various Conditions on the Respiration of Rat Heart Muscle in Vitro. <i>Frederick Bernheim and Mary L. C. Bernheim</i>	195
Some Properties of Maximal and Submaximal Exercise with Reference to Physiological Variation and the Measurement of Exercise Tolerance. <i>Craig Taylor</i>	200
Hemolytic Depression of the Erythrocyte Number by the Feeding of Fat with Choline. <i>John Emerson Davis</i>	213
Stimulation of Denervated Skeletal Muscle with Alternating Current. <i>F. S. Grodins, S. L. Osborne, F. R. Johnson and A. C. Ivy</i>	216
The Effect of Appropriate Electrical Stimulation on Atrophy of Denervated Skeletal Muscle in the Rat. <i>F. S. Grodins, S. L. Osborne, F. R. Johnson, S. Arana and A. C. Ivy</i>	222
The Influence of Muscle Pain on Cortically Induced Movements. <i>E. Gellhorn and L. Thompson</i>	231
Fasting and Gluconeogenesis in the Kidney of the Eviscerated Rat. <i>Sidney Roberts and Leo T. Samuels</i>	240
The Diuretic Effect of Gelatin Solutions. <i>C. E. Bridger, S. E. Smathers, C. W. Cotterman, J. T. Dameron and J. Maxwell Little</i>	246
Work in the Heat as Affected by Intake of Water, Salt and Glucose. <i>G. C. Pitts, R. E. Johnson and F. C. Consolazio</i>	253
The Effect of Anemic Anoxia on the Motility of the Small and Large Intestine. <i>Edward J. Van Liere, David W. Northup and J. Clifford Stickney</i>	260
The Effect of Changes in Concentration of Pantothenate on the Work Output of Perfused Frog Muscles. <i>N. W. Shock and W. H. Sebrell</i>	265
The Effect of Vitamins of the B Complex on the Work Output of Perfused Frog Muscles. <i>Nathan W. Shock and W. H. Sebrell</i>	270
The Effect of Dicumarol (3,3'-Methylenebis [4-Hydroxycoumarin]) on Platelet Adhesiveness. <i>Maryloo Spooner and Ovid O. Meyer</i>	279
The Oxygen Consumption of Normal Rat Liver and Diaphragm Muscle in Lymph Taken From Dogs Before and After Severe Burns. <i>Jytte Muus, Esther Hardenbergh and Cecil K. Drinker</i>	284
Changes in Phosphate of Muscle During Tourniquet Shock. <i>Jesse L. Bollman and Eunice V. Flock</i>	290

No. 3. OCTOBER, 1944

Studies on Mechanisms Involved in Shock and Its Therapy. <i>E. Mylon, C. W. Cashman, Jr. and M. C. Winternitz</i>	299
Further Observations on Factors Influencing Hypoxic Resistance of Mice. <i>Wm. A. Hiestand and Helen Rogers Miller</i>	310
A Comparison of the Renotrophic with the Androgenic Activity of Various Steroids. <i>Charles D. Kochakian</i>	315
The Site of Metabolism of Progesterone in the Rabbit. <i>Charles D. Kochakian, Arthur L. Haskins, Jr. and Robert A. Bruce</i>	326
Visual Thresholds as an Index of Physiological Imbalance During Anoxia. <i>R. A. McFarland, M. H. Halperin and J. I. Niven</i>	328
Fatigue of the Depressor Reflex. <i>Harriet Mylander Maling</i>	350
The Effects of Infusing Glycin and of Varying the Dietary Protein Intake on Renal Hemodynamics in the Dog. <i>Robert F. Pitts</i>	355
Cardiovascular Changes Resulting from Severe Scalds. <i>Irvine H. Page</i>	366
The Response of Mammalian Smooth Muscle to Oxygen at High Pressure and Its Possible Relationship to Oxygen Poisoning of Respiratory Enzyme Systems. <i>John W. Bean and David F. Bohr</i>	379

The Innervation of the Interosseous Muscles and the Mechanism of the "Toe Spreading Reflex" of the Hind Limb in the Cat. William L. Straus, Jr. and James M. Sprague	391
The Oxygen Consumption of Eye Muscles of Thyroidectomized and Thyroxin-injected Guinea Pigs. George K. Smelser	396
The Experimental Production of a Hyperchromic Anemia in Dogs Which Is Responsive to Anti-pernicious Anemia Treatment. John Emerson Davis	402
The Rate of Transcapillary Exchange of Sodium in Normal and Shocked Dogs. Alfred Gellhorn, Margaret Merrell and Robert M. Rankin	407
Reflexes in the Anterior Tibial Muscle after Cord Asphyxiation. A. van Harreveld	428
Induced Variations in Cell Fluid Volume in the Study of Shifts of Body Fluid. C. T. Ashworth and A. J. Gill	435
Histochemical Changes in the Kidney During Diuresis and Dehydration. John M. Weller	443
Mechanisms Underlying Electrocardiographic Changes Observed in Anoxia. A. Sidney Harris and Walter C. Randall	452
Observations on Methods of Increasing Resistance to Oxygen Poisoning and Studies of Accompanying Physiological Effects. Alvan L. Barach, Morris Eckman, Enid Tribe Oppenheimer, Charles Rumsey, Jr. and Maz Soroka	462
Evidence That the Physiologic Normal Hemoglobin Value for Adult Dog Blood is 18 Grams Per 100 CC. Susan Gower Smith	476

No. 4. NOVEMBER, 1944

Blood pH during Decompression. Robert W. Clark, Clyde Marshall and Leslie F. Nims	483
The Rabbit Ovulating Factor of Plant Juice. James T. Bradbury	487
Ischemic Compression Shock, with an Analysis of Local Fluid Loss. Harold D. Green, Robert M. Dworkin, Robert J. Antos and Georges A. Bergeron	494
Further Observations on the Water and Fat Content of the Skin and Body of the Albino Rat on a High Fat Diet. Winfrey Wynn and John Haldi	508
The Effects of Potassium on the Synthesis of Acetylcholine in Brain. John H. Welsh and Jane E. Hyde	512
The Production of Shock by Callicrein. W. W. Westerfeld, James R. Weisiger, Benjamin G. Ferris, Jr. and A. Baird Hastings	519
Callicrein Inactivators. Lytt I. Gardner, W. W. Westerfeld and James R. Weisiger	541
Glycolysis in the Parts of the Central Nervous System of Cats and Dogs during Growth. Annette Chesler and Harold E. Himwich with the technical assistance of Shirley Ferris	544
Isotopic Tracer Studies on the Movement of Water and Ions between Intestinal Lumen and Blood. Maurice B. Visscher, E. Stanton Fletcher, Jr., Charles W. Carr, Harry P. Gregor, Marian Sedin Bushey and Dorothy Erickson Barker	550
The Survival of Dogs Treated with Neosynephrin during the Production of Hemorrhagic Shock. David F. Opdyke	576
A Study of the Conversion of Fibrinogen to Fibrin. Kenneth C. Robbins	581
Changes of Cerebral Circulation Induced by Labyrinthine Stimulation. E. A. Spiegel, G. C. Henny and H. T. Wycis	589
The Effect of Positive and Negative Intrathoracic Pressure on Cardiac Output and Venous Pressure in the Dog. J. P. Holt	594
The Effect of L. Casei Factor ("Folic Acid") on Blood Regeneration following Hemorrhage in Rats. Arthur Kornberg, Herbert Tabor and W. H. Scbrell	604
The Effect of Anoxic and Anemic Anoxia on the Motility of the Small Intestine and the Influence of an Epinephrine-Potentiating-Agent. Edward J. Van Liere, David W. Northup and J. Clifford Stickney	615
Some Factors Influencing Phosphate Turnover in Muscle. Jacob Sacks	621
Concentration of Potassium in Serum and Response to Vagal Stimulation in the Dog. H. E. Hoff, D. G. Humm and A. W. Winkler	627

No. 5. DECEMBER, 1944

Modified Spontaneous Activity Rhythms in Rats. <i>Ludwig G. Brownman</i>	633
The Relation of Adrenalin and of the Carotid Sinus to the Hyperglycemia of Shock. <i>E. Mylon, C. W. Cashman, Jr. and M. C. Winternitz</i>	638
The Renal Reabsorptive Mechanism for Inorganic Phosphate in Normal and Acidotic Dogs. <i>Robert F. Pitts and Robert S. Alexander</i>	648
Spontaneous Activity in Relation to Diet in the Albino Rat. <i>Erma A. Smith and R. M. Conger</i>	663
Experimental Chronic Hypertension in the Rabbit. <i>Arthur Grollman</i>	666
Filtration Across the Vascular Wall as a Function of Several Physical Factors. <i>Chester Hyman</i>	671
Mechanism of the Effect of Hyperthyroidism on Cardiac Glycogen. <i>Louis E. Moses</i>	686
The Oxygen Tension of Arterial Blood and Alveolar Air in Normal Human Subjects. <i>Julius H. Comroe, Jr. and Robert D. Dripps, Jr.</i>	700
Factors Affecting the Determination of Oxygen Capacity, Content and Pressure in Human Arterial Blood. <i>F. J. W. Roughton, R. C. Darling and W. S. Root</i>	708
Influence of Dying Gasps, Yawns and Sighs on Blood Pressure and Blood Flow. <i>Robert A. Woodbury and Benedict E. Abreu</i>	721
Hemoglobin Concentrations, Red Cell Counts and Erythrocyte Volumes of College Women of the North Central States. <i>Margaret A. Ohlson, Dena Cederquist, Eva G. Donelson, Ruth M. Leverton, Gladys Kinsman Lewis, Williamina Armstrong Himwich and May S. Reynolds</i>	727
The Affinity of Hemoglobin for Oxygen at Sea Level and at High Altitudes. <i>Humberto Aste-Salazar and Alberto Hurtado</i>	733
Improved Measurement of the Effect of Intravenously Injected Adrenalin on the Respiratory Exchange by Colorimetric Determination of Carbon Dioxide in Ex- pired Air and Continuous Graphic Registration of Oxygen Consumption. <i>Richard J. Jones and Fred R. Griffith, Jr.</i>	744
Index.....	759

